

AF35 AutoFlash

instruction manual
#4035 - 4035.1

Thank you for purchasing an Ikelite AF35 AutoFlash. Ikelite brings 40 years of underwater photographic and lighting experience to the diving market. Ikelite's underwater photographic products are built in the USA by Ikelite to suit both the professional and the amateur photographer.

The purpose of an underwater electronic flash is to illuminate and aid in restoring the true color of the subject.

Starting Out

Before using the AF35 AutoFlash, please read the instruction manual thoroughly and retain it for future reference. Ikelite recommends becoming familiar with the features and functions of the AF35 AutoFlash above water before trying the camera and flash in the water. And, if you have not yet done so, it is suggested that you read your camera's owners manual as well.



Housing Compatibility

The AF35 AutoFlash fits: Ikelite compact digital housing styles DC100 and DC200. Most compact digital housings manufactured by Canon, Olympus and Sony.

AF35 AutoFlash Kit includes:

- AF35 AutoFlash
- Flash Diffuser
- Flexible Arm
- AutoFlash Sensor
- Rubber Grip
- Tray (single or dual)
- Mounting Hardware



AF35 Specifications

- Firing ModesAuto - 6 manual power settings
- Energy Rating35 watt-seconds
- Coverage Angle70° - 80° with diffuser
- Guide # (ISO100) feet28 surface - 16 underwater
- Guide # (ISO 100) meters9 surface - 5 underwater
- Color Temperature5700° K
- Power Source4 "AA" alkaline, NiCad, NiMH
- Flashes300 full power
- Recycle Time2.5 seconds
- Weight0.6 kg - 1.3 pounds
- Depth Rating90m - 300 feet

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Battery Compartment

Opening - Always turn the AutoFlash OFF and dry the flash before opening the battery door. To access the battery compartment, rotate the knob counter-clockwise several turns and gently remove the door. Tilt the back of the flash down while removing the battery door to eliminate the possibility of water droplets falling into the battery compartment. **Note:** Do not remove the knob from the battery door.

Battery Compartment O-ring

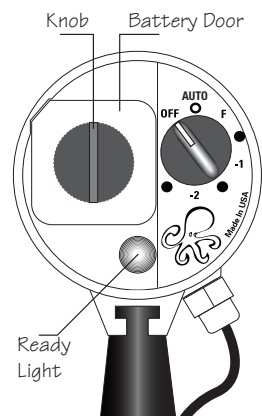
Keep the o-ring and sealing surfaces clean. Lightly lubricate the exposed portion of the o-ring with the Ikelite silicone lubricant provided.

Changing the Batteries

Install four AA-cell batteries: alkaline, NiCad, or NiMH. Refer to the "+" and "-" markings in the battery compartment to help properly install the batteries. If the batteries are installed incorrectly it may damage the electronics. Batteries should be replaced when the flash takes 15 seconds or longer to recycle.

Closing the Compartment

Check that the o-ring and sealing surfaces are clean, the o-ring is lightly lubricated and in its original position. Replace the battery door. Make sure it fits into the recess around the battery compartment. Rotate the knob clockwise several times and firmly hand-tighten to assure the proper o-ring seal; otherwise the battery compartment may leak. Caution: Do Not use a tool when tightening. It may damage the battery door.



AF35 Flash Settings

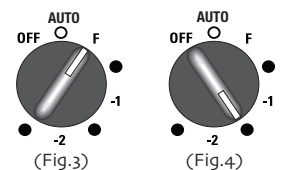
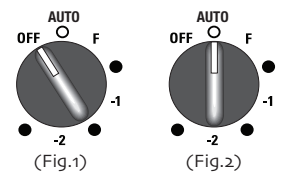
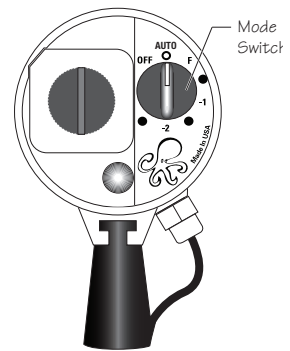
To use the AF35 AutoFlash in the Auto or Manual Mode the camera's built-in flash must be set to fire on every shot as it is used to trigger the AF35 AutoFlash.

OFF - Figure 1 shows the AF35 flash mode switch set to OFF. Always turn the flash OFF when not in use for prolonged periods or when changing batteries.

AUTO - Figure 2 shows the AF35 flash Mode Switch set to AUTO. From the OFF position rotate the Mode Switch clockwise to access the AUTO exposure setting; the white indicator on the knob aligns with AUTO. When taking pictures with the Mode Switch in the Auto position, the Auto Sensor automatically controls the flash output of the AF35 flash.

See *Auto Exposure Selector Dial*, pg. 6, for setup and additional information when using the AF35 in the AUTO mode.

MANUAL - Figure 3 shows the Mode Switch in the manual exposure mode with the AF35 turned to the F (full power) position. Rotate the Mode Switch clockwise to access the different power settings. Each power setting clockwise from F reduces the light output of the AF35 in one-half f-stop increments. When shooting in manual mode, it is suggested that you start at F (full power). If the subject in the photo is underexposed (dark) you must move closer to



AF35 Flash Settings continued

the subject. If the subject is overexposed (light), then you can rotate the mode switch clockwise to reduce the light output of the flash until the desired exposure is obtained. The AF35 provides five reductions in power in one-half f-stop increments from the full power setting, (Fig 4), for example, shows the mode switch set to minus 1-1/2 f-stops.

When the AF35 is in any manual setting the Auto Exposure Selector Dial setting has no effect on the flash output.

Switch the AF35 between Auto and Manual settings at any time.

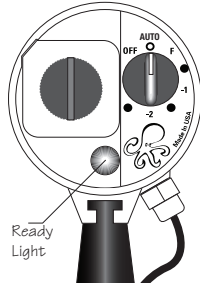
AF35 Flash Ready Light

The Ikelite AF35 Flash features a ready/confidence light at the rear of the flash that glows when the flash has recycled and is ready to fire. When the recycle times range between 10 and 15 seconds it is recommended that fresh batteries be installed.

NOTE: The AF35 flash will most likely recycle faster than the camera's built-in flash. Since the camera's built-in flash is required to trigger the AF35 flash, make sure the camera's built-in flash has recycled and is ready to fire before taking a picture.

Ready Light in Auto Mode

When the AF35 fires in the Auto Mode and enough light reaches the subject for proper exposure the ready light will glow green for about 2-3 seconds, then glow red. If the ready light does not glow green, but glows red immediately after taking a picture, not enough light reached the subject for proper exposure. Move closer to the subject and take another picture and check the ready light.



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Setting the Auto Exposure Selector Dial continued

Using Dual AF35 AutoFlashes

When using dual AF35 AutoFlashes, determine the optimum Auto Exposure Value for one AF35 Autoflash as described on page 6, then set the same Auto Exposure Value on the second AF35's selector dial.

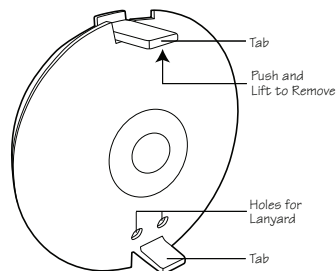
AF35 Flash Diffuser

The flash diffuser adds 10° to the angle-of-coverage of the flash. The diffuser is usually not required unless a wide angle lens is being used. The white diffuser features two protruding tabs for use in installation and removal. The tabs on the diffuser should be positioned away from the flash.

Place the diffuser over the front of the flash. Spread the two tabs apart, insert the diffuser into the recessed front, and then rotate the diffuser until it locks into position.

To remove the diffuser, bend one tab out towards the edge while lifting simultaneously.

A lanyard can be attached to the diffuser by threading it through the two holes.

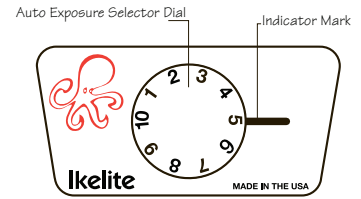


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Setting the Auto Exposure Selector Dial

On the side of the Auto Sensor is the Auto Exposure Selector Dial.

Different cameras may require different exposure values. Once the correct exposure value is determined for a particular camera, no further adjustments should be necessary to obtain acceptable flash exposures of varying subjects within normal shooting ranges.



To determine the camera's optimum Exposure Value we recommend the following procedure. This procedure can be done above water.

Make sure the camera's battery is fully charged and the AF35 flash has fresh batteries. Assemble the AF35 flash and camera housing with the flash deflector installed on the housing. Make sure the camera's built-in flash is set to fire on every shot and is fully charged. Turn the AF35 flash mode dial to AUTO. Set the Auto Exposure Selector Dial to 5 as shown above. Position the camera and flash approximately 1m (3 feet) from a colorful subject. *Subject should not be all white or black.* Take a picture, review the picture, if the picture is overexposed (light), turn the Auto Exposure Selector Dial down to 4, if the picture is underexposed (dark) turn the Auto Exposure Selector Dial up to 6. Repeat this procedure until the optimum exposure is obtained. Once the optimum Auto Exposure Value has been determined for that camera, use that value anytime that camera is used with the AF35 in the Auto Mode. *Repeat this procedure anytime a different camera is used with the AF35 AutoFlash.*

For advanced users, the Auto Exposure Selector Dial can be used for exposure compensation while remaining in the automatic mode. When the AF35 Autoflash is set in the Auto Mode the Auto Exposure Selector Dial can be used to increase or decrease the flash intensity in difficult lighting conditions.

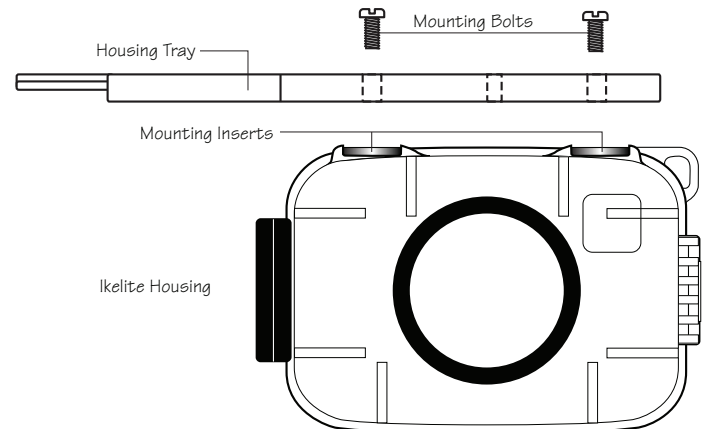
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Mounting Ikelite Housings to the Tray

Applies to Single or Dual Tray.

NOTE: The AF35 AutoFlash can ONLY be mounted to Ikelite Compact Digital housing models DC-100 and DC-200.

Turn the housing so the tray mounting inserts on the bottom of the housing are facing up. Place the tray across the bottom of the housing, align the two outer holes in the tray with the mounting inserts in the bottom of the housing. Insert the two mounting bolts as shown below and tighten the bolts firmly to secure the tray to the housing.

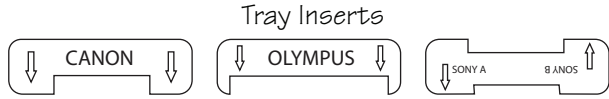


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Canon, Olympus & Sony Tray Insert Installation

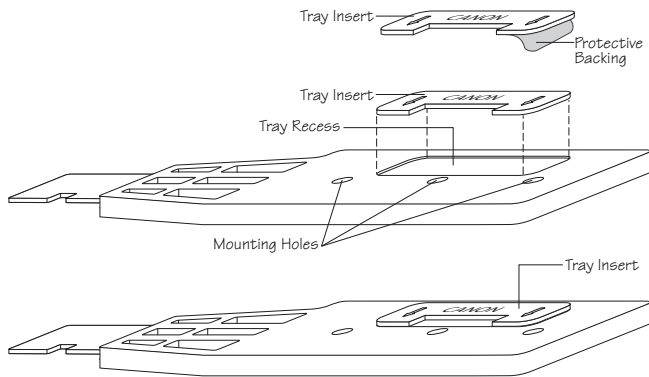
Applies to Single or Dual Tray.

Non-Ikelite housings are mounted to the tray with a single bolt. To keep the camera housing from rotating on the tray, a Tray Insert must be installed. Note that there are 3 Tray Inserts included with the AF35. Select the Tray Insert for the corresponding camera housing being installed. **NOTE:** see special Sony instructions pg.10.



Installation

1. The Tray Insert has an adhesive coating on the side opposite the lettering. Remove the protective backing to expose the adhesive.
2. Align the Tray Insert with the Tray Recess, the arrows on the Tray Insert should be pointing toward the holes in the tray.
3. Place Insert into Recess and push down to secure Insert to tray.

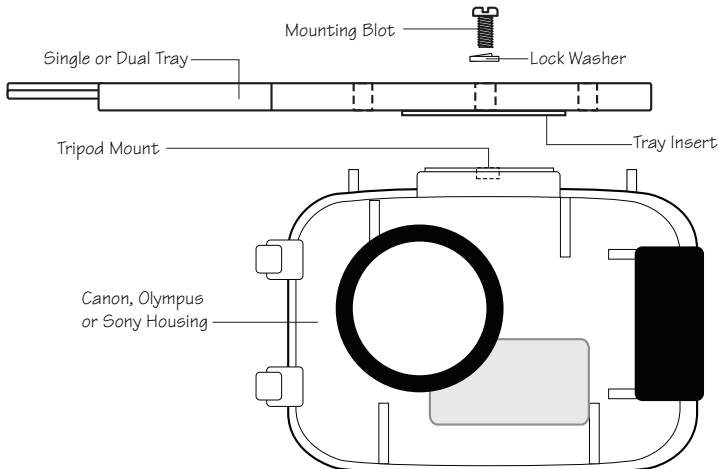


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Mounting Canon, Olympus & Sony Housings to the Tray

Applies to Single or Dual Tray.

After the proper Tray Insert is installed the housing can be mounted to the AF35 tray. Turn the housing so the Tripod Mount on the bottom of the housing is facing up. Place the tray across the bottom of the housing, align the center hole in the tray with the hole in the Tripod Mount on the bottom of the housing. Insert the mounting bolt with lock washer as shown below and tighten the bolt firmly to secure the tray to the housing. Check that the Tripod Mount aligns correctly with the Tray Insert restricting the housing from rotating on the tray.

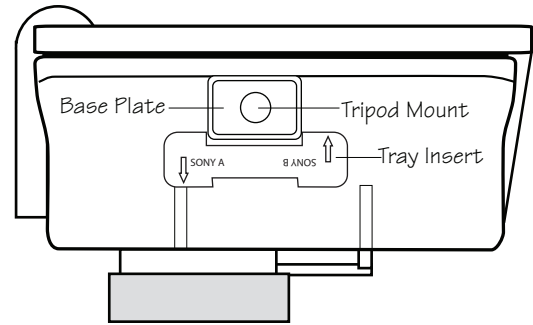


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Sony Housing Tray Insert Installation

Applies to Single or Dual Tray.

Sony housings have 2 different size Base Plates. The Tray Insert marked Sony has 2 different cut-outs. To determine the correct cut-out, place each of the Sony Tray Insert cut-outs against the Sony housing Base Plate as shown below. Use the cut-out that fits snug around the Base Plate. When the correct cut-out is determined proceed with the installation.



See page 9 for drawings of the following procedure.

1. The Tray Insert has an adhesive coating on the side opposite the lettering. Remove the protective backing to expose the adhesive.
2. Align the Tray Insert with the Tray Recess, the arrows on the Tray Insert should be pointing toward the holes in the tray.
3. Place Insert into Recess and push down to secure Insert to tray.
4. See pg. 11 for mounting the Tray to the housing.

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Installing Housing Deflectors

Installing a Deflector in front of the camera's built-in flash will block the camera's flash from going forward and lighting the particles in the water; helping to reduce backscatter, it will also deflect the light back toward the AF35 Sensor used to trigger the AF35 Flash.

Ikelite Housings

Deflectors are supplied with Ikelite housings, see housing instructions for installation.

Non-Ikelite Housing Deflector Installation

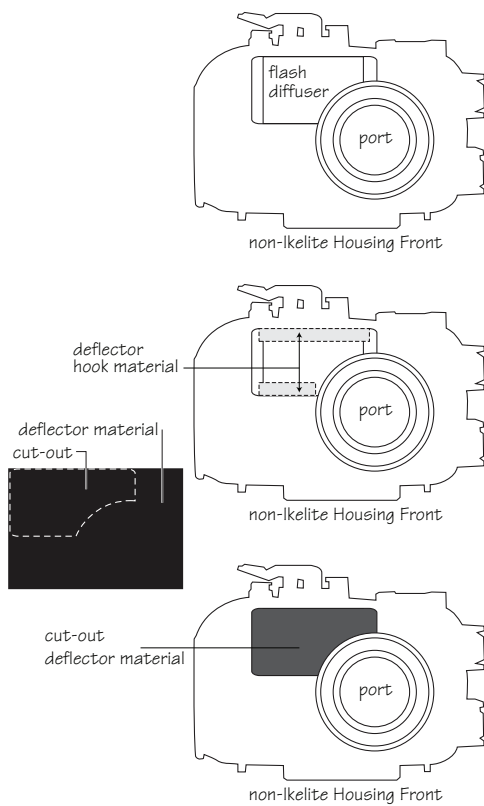
Most Canon, Olympus and Sony digital camera housings have a flash diffuser built on the housing to which the deflector can be attached. (see drawing pg 13). If the housing does not have a flash diffuser pick a spot on the outside of the housing in front of the camera's built-in flash to mount the deflector.

Deflector Kit includes:

- 1 strip of hook material, 1/4" wide x 6" long
- 1 strip of loop material, 2" wide x 3" long

1. The loop material (deflector) is white on one side and black on the other side. The white side will go against the housing as it has loops that will stick to the hook material once it is secured to the housing.
2. Using a piece of paper, cut a template to fit on the outside of the housing in front of the camera's built-in flash. Trace the template on the loop material and cut it out. Test fit the loop material (deflector) on the housing and trim as necessary.
3. Position the loop material (deflector) on the housing to determine where to locate the 2 strips of hook material to secure the deflector to the housing. Cut 2 strips of the hook material to fit on each side or on the top and bottom of the deflector. Peel the adhesive backing from the hook material strips and press them onto the housing. The loop material (deflector) can now be secured or easily removed from the housing.

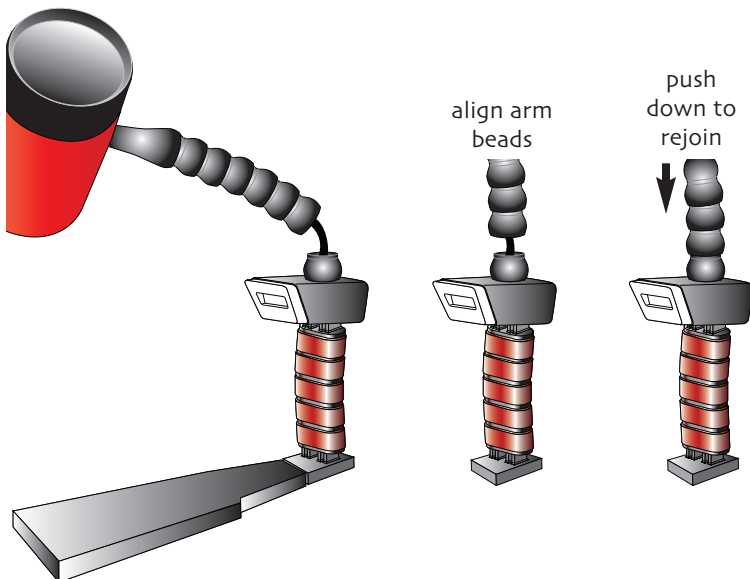
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Flex Arm

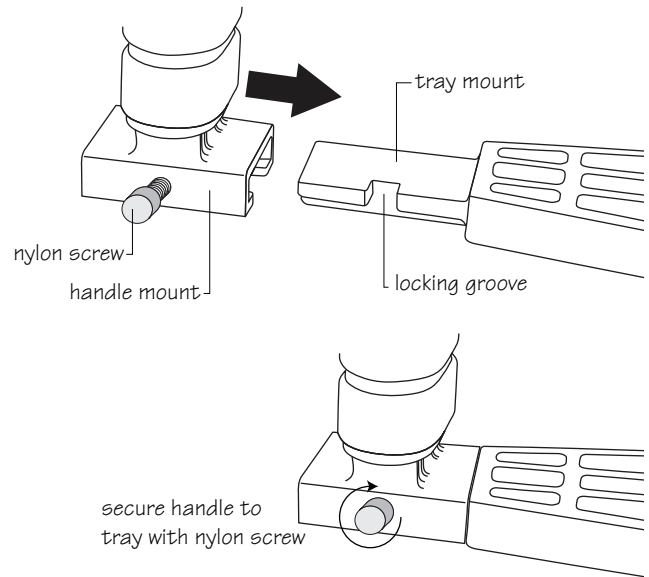
The AF35 Flex Arm is quite versatile, it allows the flash head to be placed in many different positions for optimal lighting. The flash head is connected to the sensor with a sync cord that runs through the center of the flex arm. If the flex arm is bent too far it may separate from the top bead on the sensor body. The flex arm and flash will still be connected to the sensor and handle by the sync cord, **DO NOT** put undue force on the sync cord. If the Flex Arm separates from the top of the sensor, position the bottom bead of the Flex Arm over the bead on the top of the sensor body and push down to reinstall. The flex arm should snap back into position.



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Connecting AF35 Handle to Tray (single or dual)

The base of the Handle that slides over the tray mount has a nylon screw. Note that the tray has a notch for the nylon screw to fit into when the handle is mounted to the tray and the nylon screw is screwed down. Back the screw out far enough to slide the handle base onto the tray mount. Align the handle mount with the tray mount as shown, push the handle mount onto the tray mount and secure with nylon screw. Reverse this procedure to remove the handle.



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Lubricant

- Use only Ikelite brand silicone lubricant with Ikelite brand o-rings; other brand lubricants can cause the Ikelite o-rings to swell in size.
- Do Not use spray lubricant; it can crack the plastic parts of the Kit.
- Lubricant reduces friction and prolongs the life of o-rings, it is not a sealant. Use only enough lubricant to lightly cover the area being applied; wipe off any excess with a clean cloth.

Maintenance

Your Ikelite AF35 AutoFlash Kit should be given the same care and attention as your other photographic equipment.

Routine Cleaning

Caution: Make sure the AF35's battery door is on and tightened down before exposing the flash to water. Ideally, water should never enter the battery compartment. If this does occur, see "Battery Compartment Flooding" on page 17.

1. Always rinse the exterior of the AF35 with fresh water after use, especially after exposure to salt water. While rinsing, turn the mode switch to free salt or debris that might have accumulated in recesses during the dive.
2. Dry the AF35 thoroughly.

Long Term Storage

1. Make sure the battery door is on and tightened down firmly.
2. Soak the Kit in a mild soap solution, operate the mode switch to free salt or debris, rinse and dry before storage.
3. When storing the Kit, remove the batteries from the flash. Lightly lubricate the exposed part of the door's o-ring and store the AF35 flash with the battery door lightly screwed on, this will allow any hydrogen/air mixture to escape the battery compartment and avoid unnecessary pressure on the o-ring that could cause it to flatten.

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Battery Compartment Flooding

The battery compartment is separate from the AF35's factory sealed electronics. Should the battery compartment flood, remove the batteries, flush the compartment with fresh water and dry thoroughly. Determine the cause of the flooding to the best of your ability. Send the AF35 kit to Ikelite for inspection and testing as soon as possible.

Often, divers find themselves in remote locations for extended periods without access to multiple flashes. If the flash with the flooded battery compartment is the only one available to you at the time and you're desperate to continue shooting, please follow these instructions for a temporary fix:

1. Open the battery compartment, remove batteries and water. Blow out as much water as possible with a blow dryer or air from a scuba tank.
2. Wash out the battery compartment with alcohol. Blow dry the battery compartment again with a blow dryer or air from a scuba tank.
3. **Caution:** Replace all batteries after battery compartment flooding. Never re-use batteries that have been wet. The water could cause an internal short circuit in the flash at some later date, potentially causing an explosion.
4. Reassemble the AF35 with fresh batteries.
5. After returning from your trip, send the AF35 Kit to Ikelite for inspection and testing.

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Recommendations

Visual Inspections

Take the time to examine the entire assembly setup above water. An improper seal can cause a lot of damage. Always check for leaks once you place the equipment in the water.

Insurance

It is recommended that you add an **all-risk floater** to your homeowner's and/or renter's insurance policy to cover your equipment against loss or damage. While the Ikelite AF35 has a limited warranty against manufacturing defects, it does not cover customer error.

Tips

1. Photograph through as little water as possible; move in close. Maximum recommended shooting distance for good lighting is 1.8m (6').
2. Use the AF35 diffuser for softer lighting or wider coverage.
3. Always carry spare batteries. Weak batteries are the cause of many flash and camera problems; check the voltage with a meter. Note: it's possible to buy bad "new" batteries.
4. The AF35 has a flexible arm for positioning the flash. Check that the flash is aimed at the subject being photographed.
5. When taking pictures in rapid succession, note that the AF35's flash will recycle much faster than the camera's built-in flash. Since the camera's built-in flash is used to trigger the AF35 you must wait for the camera's built-in flash to recycle.
6. Make sure the flash deflector is installed in front of the camera's built-in flash. This not only helps direct light to the sensor but also aids in reducing backscatter in photographs.

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Troubleshooting

Strobe will not fire

1. Check the AF35's ready light. Turn the flash mode switch to OFF and then back to Auto. Make sure the switch has actually clicked into position.
2. Check that the batteries are inserted according to the "+" and "-" markings. Note: it is possible to buy bad "new" batteries; check the voltage output with a meter. If using rechargeable batteries make sure the charger is working properly and that the batteries are fully charged.
3. Check that the camera's built-in flash is turned on and is set to fire on every shot.

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Ikelite Limited Warranty

Ikelite Substrobes and the AF35 AutoFlash are warranted against any manufacturing defects for a period of two (2) years from the date of purchase. All other Ikelite products are warranted against any manufacturing defects for a period of one (1) year from the date of purchase. Defective products should be returned prepaid to Ikelite. Ikelite will, at its discretion, repair or replace such products, and will return to customer prepaid. All other claims, of any nature, including but not limited to bulb failure are not covered. Except as mentioned above, no other warranty expressed or implied, applies to this Ikelite product.

Returning Products for Service

Ikelite is most interested in performing any service to assure that all products perform as intended. For repair or service, return the product to the address below with your name, address, phone number and a brief description of the problem. Evidence of purchase date must be provided to obtain warranty service.

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Digital 4035-01-1207